



*Invited lecture/Research*

# Innovative Approaches to Language Learning through the Lens of Use Artificial Intelligence

Nurtazina Maral<sup>1</sup>, Nurseitov Azamat<sup>1,\*</sup>

<sup>1</sup> L.N. Gumilyov Eurasian National University, Astana, Kazakhstan

\* Correspondence: Nurtazina Maral; nurtazina\_mb@enu.kz;

**Citation:** Nurtazina M, Nurseitov A. Innovative Approaches to Language Learning through the Lens of Use Artificial Intelligence. Proceedings of Socratic Lectures. 2024, 10, 222-225. <https://doi.org/10.55295/PSL.2024.129>

**Publisher's Note:** UL ZF stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



**Copyright:** © 2024 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

## Abstract:

The article explores the question of innovative approaches to language learning through the lens of leveraging artificial intelligence (AI) capabilities, using the English language as an example. Therefore, the aim of this article is to highlight the possibilities of using AI in language learning, with a specific focus on the English language.

The research task involves analyzing some of the latest publications on this topic and identifying their common trends. Among them, special emphasis is placed on individualizing the learning process, the broad potential of text, audio, and visual material generation by AI, and the shift in the role of the teacher towards that of a guide and advisor.

In addition, the paper provides statistical data regarding the positive experiences of using AI capabilities among 75 high school students at a school in Astana, Kazakhstan.

The article also discusses the advantages and disadvantages of using AI in English language learning. As a result of the conducted research, it was found that the utilization of AI capabilities in language learning is an integral part of innovative approaches in this field.

**Keywords:** language learning; artificial intelligence; innovative approaches; didactics.



## 1. Introduction

The emergence of AI stands out as a highly notable occurrence in recent scientific history. Presenting a wide field of potential applications in the realm of education demonstrates a distinct advantage in promoting increased student involvement in the learning process. An illustration of this is the autonomous acquisition of language skills facilitated by chatbots, audio, and video content generators. This method allows for significant adaptability in language learning, considering the unique attributes of each participant in the educational domain. As a result, the multitude of inventive approaches in language learning through the lens of use AI constitutes an expansive domain necessitating comprehensive and prolonged scrutiny.

Nevertheless, despite its numerous benefits, the application of this technology to language learning requires various enhancements. A crucial lingering inquiry revolves around whether AI can truly replace a live teacher. Currently, its functionalities act as a supplementary element to innovative language learning methodologies. All of this leads to a new phase of reevaluation, or in other words, the emergence of a new scientific paradigm in education (Choudhary et al., 2022).

It is worth noting that the most significant impact is experienced by the new generation, often referred to as individuals born in the age of digital technologies, or “Generation Z” (Pikhart, 2020). Therefore, it is evident that the application of the capabilities of digital technologies, especially AI, in language learning sessions allows for a closer alignment with their understanding of the educational environment.

However, there are numerous debates about the appropriateness of using the capabilities of AI (Barrett & Pack, 2023), which introduces a large number of innovations into the process of learning a foreign language. Therefore, the goal of this research is to examine the features of using innovative approaches in language learning through the lens of AI utilization.

## 2. Methods

The abstract-analytical method was employed as a method for identifying trends on the subject of this research. On one hand, the analysis highlighted the key turning points in recent research regarding the use of AI innovations in language learning. On the other hand, the abstract method allowed for the identification of connecting links among the analyzed studies in this direction.

Also, a survey method was utilized for the collection of statistical data.

In addition to the aforementioned methods, the observation method was employed. It facilitated the delineation of the boundaries of existing possibilities and drawbacks in using innovative approaches in language learning through the lens of AI utilization.

## 3. Results

Among the advantages of using AI in language learning, the following are particularly notable:

1. Individualization of the language learning process. Students have the opportunity to practice study materials at a convenient time and place (Kushmar et al., 2022). They can choose the study material that interests them at the moment. AI allows learners to be more pragmatic in selecting topics for study, enabling them to plan their learning based on their knowledge and gaps (Ermağan & Ermağan, 2022). All four language skills can be improved without the presence of a live teacher (Ali, 2020). Students have the flexibility to choose the pace of their learning.
2. Integration of Text, Audio, and Visual Materials. AI enables the seamless combination of textual, audio, and visual educational materials into a unified logical structure without requiring significant effort from the teacher (Nur Fitria, 2021). This frees up a considerable amount of time and energy for the teacher to enhance their professional competencies.
3. Changing the Role of the Teacher. The use of AI shifts the role of the teacher to that of an advisor or guide in the world of foreign language learning (Celik et al., 2022).

However, there are significant drawbacks to the use of AI, including its limited ability to process information accurately, the high cost of more advanced program versions (Nalbant, 2021), and the inability to fully replace a live teacher.



To understand how the use of AI in language learning sessions would be perceived by students and to gauge the level of interest in the lessons, a series of sessions were conducted among 75 students in grades 8-11 at a school in Astana, Kazakhstan. The following applications were used during the sessions: AI Chat, Grammarly (Schmidt & Strasser, 2022), Bing, Chat GPT (Rospigliosi, 2023), Bing Image Creator, Stable Diffusion, Lexica Aperture, and AI Studios. For example, to memorize vocabulary related to the lesson's topic, students entered a word or combination of words, receiving a ready-made image or video fragment. The sessions involved activities to practice speaking and writing skills, such as formulating questions correctly to obtain the desired answer. To reinforce grammar, students were tasked with creating a video lesson by generating text and video on the studied topic using AI. Upon completion of the sessions there was a survey that indicated a high level of satisfaction. The obtained data is presented in **Table 1**.

**Table 1.** Tabulated statistics depicting the satisfaction levels with the learning outcomes.

Nº	Student satisfaction level	Nº	Student satisfaction level	Nº	Student satisfaction level	Nº	Student satisfaction level	Nº	Student satisfaction level
1	83.5%	16	89.9%	31	83.1%	46	88.4%	61	84.7%
2	86.8%	17	80.1%	32	91.4%	47	83.3%	62	85.5%
3	84.4%	18	80.8%	33	76.0%	48	94.7%	63	81.2%
4	92.8%	19	91.1%	34	92.0%	49	94.1%	64	81.0%
5	74.6%	20	77.7%	35	82.1%	50	90.4%	65	79.2%
6	77.1%	21	94.9%	36	77.5%	51	93.3%	66	76.8%
7	94.2%	22	72.5%	37	85.3%	52	88.3%	67	80.0%
8	84.2%	23	84.5%	38	88.4%	53	79.9%	68	86.4%
9	85.7%	24	72.5%	39	92.0%	54	94.3%	69	78.7%
10	74.0%	25	74.7%	40	87.1%	55	80.0%	70	90.8%
11	83.9%	26	74.5%	41	76.9%	56	92.4%	71	90.6%
12	86.3%	27	89.9%	42	86.2%	57	85.0%	72	80.01%
13	73.1%	28	81.0%	43	72.5%	58	89.8%	73	86.0%
14	90.2%	29	82.9%	44	94.8%	59	80.0%	74	93.2%
15	85.0%	30	94.2%	45	76.4%	60	91.7%	75	86.2%

#### 4. Discussion

Among 75 students who took part in the survey, the satisfaction levels were between 72.5% and 94.9%. The computed mean stands at 84.86%.

Thus, the satisfaction level of students with the conducted sessions utilizing AI capabilities showed positive results. This serves as another small piece of evidence in favor of the necessity of incorporating its capabilities in language learning.

However, the following drawbacks were observed. Due to the generation of unsatisfactory quality responses by some AI-based systems, students experienced a decline in their initial positive attitude toward the session. For example, when entering a word or combination of words, AI generated images partially or with unsatisfactorily quality or that had illogical content. This prolonged the process of obtaining answers and required additional efforts from the students.

Another significant drawback is that without a live teacher shaping the curriculum and combining the capabilities of AI, students were unable to independently generate study materials and progress in language learning. Because of lacking sufficient knowledge and experience, students could not determine the correct direction of their learning journey



(Rebolledo Font de laVall & Gonzales, 2023). Therefore, despite the fact that AI is capable of generating a vast amount of information, it still cannot fully replace a live teacher (Parab, 2020).

### 5. Conclusion

The creation of AI is undoubtedly one of the most significant developments in the world of science in recent times. Unveiling a vast range of possibilities for its use in education provides a clear advantage in fostering greater student engagement in the learning process. The ability for autonomous language learning through the use of chatbots, audio and video content generators are just a few examples. It offers considerable flexibility in language learning, taking into account the individual characteristics of each participant of the educational process. Therefore, the diversity of innovative approaches in language learning through the lens of AI is a very extensive area that requires thorough and prolonged study.

However, despite all its advantages, the use of this technology in language learning still requires numerous refinements. One of the main questions that remains is that AI is not yet capable of replacing a live teacher. Therefore, today, its capabilities serve as a complement to innovative language learning approaches.

Thus, the application of innovative approaches in language learning through the capabilities of AI demonstrates positive results in practice and raises numerous theoretical questions, thereby necessitating further research in this direction.

**Conflicts of Interest:** The author declares no conflict of interest.

### References

1. Ali Z. Artificial Intelligence (AI): A Review of its Uses in Language Teaching and Learning. IOP Publishing. 2020; 769: 1-6. DOI: 10.1088/1757-899X/769/1/012043
2. Barrett A, Pack A. Not quite eye to A.I.: student and teacher perspectives on the use of generative artificial intelligence in the writing process. *Int. J. Educ. Technol. High. Educ.* 2023; 1-24. DOI: 10.1186/s41239-023-00427-0
3. Celik I, Dindar M, Muukkonen H, Järvelä S. The Promises and Challenges of Artificial Intelligence for Teachers: a Systematic Review of Research. *TechTrends.* 2022; 66: 616–630. DOI: 10.1007/s11528-022-00715-y
4. Choudhary A, Fox G, Hey T. AI for Science. Publisher: World Scientific.2022; pp. 3-11. DOI: [https://doi.org/10.1142/9789811265679\\_0001](https://doi.org/10.1142/9789811265679_0001)
5. Ermağan E, Ermağan I. Innovative Technology and Education: Artificial Intelligence and Language Learning in Turkey. *International Journal of Education.* 2022; 11: 201-209. DOI: 10.34293/education.v11iS1-Dec.6085
6. Kushmar L, Vornachev A, Korobova I, Kaida N. Artificial Intelligence in Language Learning: What Are We Afraid of. *AWEJ.* 2022; 8: 262-273. DOI: 10.24093/awej/call8.18
7. Nalbant Kemal Gökhan (2021), The Importance of Artificial Intelligence in Education: A short review. Accessed 30.12.2023. Available from <https://www.researchgate.net/publication/358634571>
8. Nur Fitria T. The Use Technology Based on Artificial Intelligence in English Teaching and Learning. *ELT Echo.* 2021; 6: 213-223. DOI: 10.24235/eltecho.v6i2.9299
9. Parab A. Artificial Intelligence in Education: Teacher and Teacher Assistant Improve Learning Process. *IJRASET.* 2020; 8: 608-612. DOI: 10.22214/ijraset.2020.32237
10. Pikhart M. Intelligent information processing for language education: The use of artificial intelligence in language learning apps. *Procedia Computer Science.* 2020; 176: 1412-1419. DOI: 10.1016/j.procs.2020.09.151
11. Rebolledo Font de la Vall R, González Araya F. Exploring the Benefits and Challenges of AI-Language Learning Tools. *IJSSHI.* 2023; 10: 7569-7576. DOI: 10.18535/ijsshi/v10i01.02
12. Rospigliosi P. Artificial intelligence in teaching and learning: what questions should we ask of ChatGPT? *Interactive learning environments.* 2023; 31: 1-3. DOI: 10.1080/10494820.2023.2180191
13. Schmidt T, Strasser T. Artificial Intelligence in Foreign Language Learning and Teaching: A CALL for Intelligent Practice. *Anglistik.* 2022; 33: 165-184. DOI: 10.33675/ANGL/2022/1/14